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मानक

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IS 11337 (2002): Purchase Hydraulic Cylinders [PGD 16: Fluid Power]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
द्रवचालित सिलिंडरों की क्रय विशिष्टियाँ
(पहला पुनरीक्षण)

Indian Standard
PURCHASE SPECIFICATION FOR
HYDRAULIC CYLINDERS
(*First Revision*)

ICS 01.110; 23.100.20

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Basic Fluid Power Sectional Committee had been approved by the Basic and Production Engineering Division Council.

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit. One component of such system is the fluid power cylinder. This is a device which converts piston power into linear mechanical force and motion. It consists of a movable element, that is a piston and piston rod, operating within a cylindrical bore.

This purchase specification has been prepared to enable buyers to collect data as per their requirement from various manufacturers or suppliers for the purpose of comparison and subsequent collection.

This Standard was first published in 1985. This revision has been made to bring the standard in line with the current practices prevalent in the industry as also to align it with the existing Indian Standards references of which are given in 2.

Indian Standard

PURCHASE SPECIFICATION FOR HYDRAULIC CYLINDERS (*First Revision*)

1 SCOPE

This standard specifies the purchasing data of hydraulic cylinders.

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below :

<i>IS No.</i>	<i>Title</i>
8208 : 1976	Sizes for cylinder bores and piston rod diameter for fluid power systems
10411 : 1983	Recommendation on nominal strokes for fluid power cylinder
10416 : 1992	Fluid power systems and components — Vocabulary (<i>first revision</i>)
10585 : 1983	Method of test for cylinders for oil hydraulic systems
11003 (Part 1) : 1984	Recommendations for mounting dimensions for hydraulic fluid power — single rod cylinders 160 bar series : Part 1 Medium series with bores from 25 to 500 mm
11003 (Part 2) : 2000	Hydraulic fluid power — Mounting dimensions for single rod cylinders — 16 MPa (160 bar) series: Part 2 Compact series

3 DEFINITIONS

For the purpose of this standard, the definitions given in IS 10416 shall apply.

4 SIZES**4.1 Cylinder Bores**

The cylinder bores shall be as per 3.1 of IS 8208.

4.2 Piston Rod Diameter

The piston rod diameters shall be as per 3.2 of IS 8208.

4.3 Piston Stroke

The piston stroke(s) shall be as per 2.4 of IS 10411.

4.4 Mounting

The mounting dimensions for cylinder shall be as per IS 11003 (Part 1) and IS 11003 (Part 2).

5 TESTING

For testing details of hydraulic cylinders, reference shall be made to IS 10585.

6 NAME PLATE

The cylinder shall be provided with a permanent name plate giving details as per SI No. 16 of Table 1.

7 PROFORMA FOR PURCHASE SPECIFICATION

Proforma for purchase specification may be in accordance with that given in Table 1.

Table 1 Proforma for Purchase Specification for Hydraulic Cylinders
(Clauses 6 and 7)

-
1. **Cylinder Type** : Single acting/Double acting/Telescopic/Any other
Ram _____
 2. **No. of Stages** (in case of telescopic cylinders) _____
 3. **Sizes, mm** : Bore _____ Rod _____ Stroke _____
 4. **Fluid media** : Aqueous/Mineral oil/Oil in water/Water in oil/Ester/Any other
 5. **Ratings** :
 - 5.1 Pressure, kgf/cm² : Max working pressure _____ Rated pressure _____
 - 5.2 Velocity, m/s : Max working speed _____
 - 5.3 Temperature, °C : Working temperature range : Min _____ Max _____
 6. **Installation** : Horizontal/Vertical/Inclined
 7. **Mounting** : MF1 — Rectangular flange, head mounting MF2 — Rectangular flange, cap mounting
 MF3 — Circular flange, head mounting MF4 — Circular flange, cap mounting
 MP3 — Fixed eye cap mounting MP4 — Detachable eye cap mounting
 MP5 — Fixed eye with spherical cap mounting MP6 — Detachable eye with spherical bearing cap mounting
 MT1 — Male trunnion, head MT2 — Male trunnion, cap mounting
 MT3 — Male trunnion, central mounting Any other style with dimensional drawings
 MT4 — Intermediate fixed or movable trunnion (male)
 MX1 — Both ends studs or tie rods extended
 MX2 — Cap studs or tie rods extended
 MX3 — Head studs or tie rods extended
 8. **Rod end** : Eye/Thread/Clevis/Lock nut/Any other
 9. **Load details** :
 - 9.1 Condition : Steady/Mild shocks/Heavy shocks
 - 9.2 Holding : Extension/Retraction/None
 - 9.3 Duty : Light/Medium/Heavy
 - 9.4 Operation : Infrequent/Intermittent/Continuous
 - 9.5 Side load details, if any _____
 10. **Cushioning details** :
 - 10.1 Head end cover _____
 - 10.2 Cap end cover _____
 - 10.3 Length _____
 - 10.4 Speed _____
 11. **Environmental** : Acid vapour/Dust/Hard particles/Mud/Water/Snow/Tropical/Vibration/Molten metal/Any other
 12. **Primer/Paint** Specify : _____
 13. **Safety requirements** Specify : _____
 14. **Special requirement if any, for example Tolerance/Tracking/Accuracy, etc**
 15. **Testing requirements** Specify : Proof pressure test/Static internal leakage/Static friction test/Endurance test/Any other test.
 16. **Name plate/Punching/Identification details** Bore _____ Rod _____ Stroke _____ Working pressure _____
 _____ Manufacturer's reference number _____ Year of manufacture _____
 17. **Packaging** Specify : _____
 18. **Labelling, if any**

Signature of the Purchaser _____

Name of the Purchaser _____

Name and address of the Company _____

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Amendments Issued Since Publication

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